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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,546	01/23/2001	Pradeep K. Subrahmanyam	S01.12-0644	3008

7590 04/16/2003

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Minneapolis, MN 55402-3319

EXAMINER

SNIEZEK, ANDREW L

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 04/16/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/767,546

Applicant(s)

SUBRAHMANYAN, PRADEEP K.

Examiner

Andrew L. Sniezek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-34 and 36 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The following action is taken in view of the amendment filed 2/19/03.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 19, 20, 28, 31-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Baba ('162).

Baba teaches a servo arrangement that adaptively generates an output responsive to a sensed position signal (column 6, line 10-11), a desired position signal (1) and at least one of a torque and an inertia (element 5, torque constant of the particular actuator used). As broadly as set forth this teaching satisfies the limitations of claim 19. The limitations of claim 20 are satisfied by the circuit arrangement as depicted in figure 4 of Baba. Claim 28 although set forth using different language, sets forth a similar arrangement that is satisfied by Baba as noted above. The limitations of claim 31 are satisfied by the read/write spot as discussed in column 1, lines 16-36. Claims 32-34 are directed to the method corresponding to the previously set forth apparatus. These limitations are deemed taught by the operation of the arrangement as discussed by Baba.

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 21-24, 26, 27, 29, 30 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baba in view of Clare et al. ('286)

The teaching of Baba is discussed above and incorporated herein. Claim 21 additionally sets forth the use of an equation to determine parameter data and claim 22 sets forth that this data is based on both torque and inertia. Although not specifically taught by Baba such feature is well known as taught by Clare et al. as discussed when taking into account of changing acceleration factors that are based on varying torques values and inertia as discussed under the section, preferred embodiments. The control arrangement of Clare et al. is a digital arrangement therefor satisfying the claimed discrete controller as set forth in claim 23. Also taught by Clare et al. is the use of a digital to analog converter (figure 1) in the control arrangement. Such type of control arrangement would have been obviously used as a replacement control arrangement as taught by Baba to provide an alternative control. The limitations of claim 27 are satisfied by the read/write spot as discussed in column 1, lines 16-36. The claimed first and second controllers (claim 29) that use error model (claim 30) are deemed satisfied by the linear and saturation models as taught by Clare et al and would have been obvious incorporated into the arrangement of Baba to take into account different modes

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of operation. Claim 36 sets forth the use of a voice coil motor (VCM). Although not specifically taught by Baba such motors are commonly used to move an actuator in a disk drive (See Clare et al., element (40)). It would have been obvious to one of ordinary skill in the art to modify the motor arrangement of Baba to incorporate a VCM as taught by Clare et al., to provide an alternative means to move the actuator.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baba in view of Clare et al. ('286) as applied to claims 21-24, 26 and 36 above, and further in view of official notice.

The teaching of Baba and Clare et al. are discussed above and incorporated herein. Claim 25 further sets forth the use of pulse width modulation, which although not taught by the applied art is well known as an alternative arrangement to the digital to analog converter as taught by Clare et al. Official notice is hereby given. It would have been obvious to one of ordinary skill in the art to modify the arrangement of Baba and Clare et al. as applied to incorporate a well-known pulse width modulator to provide an alternative arrangement that can be used to achieve similar results.

Allowable Subject Matter

7. Claim 35 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The claimed stored instructions to digitally update the adaptive parameter data as set forth is neither taught by nor an obvious variation of the art of record.

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Response to Arguments

9. Applicant's arguments with respect to claims 19-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

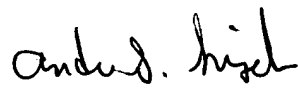
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Snizek whose telephone number is 703-308-1602. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 703-305-4700. The fax phone numbers for the organization where this application or proceeding is assigned are 703-

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872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


Andrew L. Sniezek
Primary Examiner
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A.L.S.
April 8, 2003